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Quarterly Report
(Quarter 3: April 2011 – June 2011)

AGRICULTURE TECHNOLOGY PROGRAM IN TURKMENISTAN

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PROJECT OVERVIEW

Third quarter project activities were enhanced by accomplishments realized during quarter two. As part of the two major project objectives (a) improving genetics, education and organizations for private livestock producers, and (b) introducing successful agribusiness practices, training materials were developed for livestock and horticulture modules and distributed to all the participants. The program implemented Training-of-Trainers (TOT) sessions, facilitated the reconstruction of greenhouses throughout the region, and worked with an outside expert and local farmers to initiate seed trials necessary for determining the best products for Turkmen soil conditions (Note: M&E performance indicator updates can be seen on pg. 7). As of June 30, 2011, the project estimates that $682,162 has been spent of the obligated funds of $1,090,000.

The third quarter continued to procure additional artificial insemination (AI) supplies for the development of an AI training center, made headway in establishing a suitable feed mix and practical tools for the Program's livestock component, and established working relationships with local entrepreneurs and international organizations. By gathering relevant data and utilizing external expertise, the Program has continued to tailor the training curriculum to the demands of the participating farmers and AI practitioners.

The management of the project has changed in Q3. Resident Chief of Party, Mr. Jason Bohoney, left the post due to an emergency medical evacuation, and the home office staff covered the post for the majority of Q3 until the replacement Chief of Party, Mr. Jeffrey Lamont, was hired and started on June 25, 2011.

PROJECT ACTIVITIES

PARTNERSHIPS

American Breeders Services (ABS) – The world's leader in bovine genetics, ABS has been actively involved in assisting us with necessary AI equipment procurement: high quality progeny-tested semen, storage and transportation tanks, and pertinent information to the construction of an AI training center. ABS is very interested in maintaining an ongoing relationship with the Program and to provide quality products and services to Turkmenistan as necessary.

World Wide Sires and *Accelerated Genetics*– Accelerated Genetics facilitated the purchase of three AI kits for the Project in November 2010 and provided instructional materials for the AI program. They are partners with World Wide Sires who represent them globally. World Wide Sires has previously conducted work for USAID and assisted the Program by supplying AI kits and shipping

them directly to Turkmenistan, which has had a significant impact on the quality of the AI TOT trainings held this quarter in April-May.

Satimex – Mr. Murad Nobatov, the AgTech Project's Agribusiness Specialist, has engaged with a German firm that has shown interest in the Turkmen market. Having met at a recent exhibition in Ashgabat, Mr. Nobatov brought together local businessmen and farmers to meet and discuss with Satimex General Manager, Mr. Hartmut Klein, to examine a way forward to market entry for horticulture seed inputs. The firm left the project with several samples of tomatoes, cucumbers and other products to see what varieties respond best to the Turkmen conditions.

University of Wisconsin –The project has made contact with and is engaging the University of Wisconsin to use high-tech software programs for determining optimum feed mix using local Turkmen inputs, as well as establishing a volunteer program through which graduates will provide technical assistance to Turkmen dairy farmers on best practices.

TRAINING SEMINARS

Over the past three months, the Agriculture Technology Program has ramped up its activities, including trainings for AI of cows for dairy and meat, and greenhouse management and renovations trainings for horticulture producers of tomatoes and cucumbers.

Horticulture Training

For the greenhouse improvement program, renovations were made to partner farms in Mary and Lebap, and in April trainings took place at both facilities for disease identification and treatment. The training continued in three velayats, Mary, Lebap and Akhal from April to June. There were 320 participants involved in the greenhouse construction and management trainings. As anticipated, the greenhouse renovations in Mary and Lebap from Q2 served as examples to over 50 greenhouses in Mary alone among farmers who attended the TOT trainings. By elevating the ceiling and employing new techniques, the farmers were able to maximize the use of their greenhouses and improve the consistency of internal temperatures and humidity in an affordable manner. By June 30, 172 families had invested in new technologies offered by the project.

"The training was very useful and I learned about plant diseases that we hadn't even realized were diseases until this seminar. I wrote down their names and how to prevent and treat them. Without this USAID training, we would not be able to get this information."

- *Mr. Kakamyrat Garliev*

Constraints: Despite improvement in affordability,

Next Step:

Further trainings are scheduled with an improved curriculum, tailored to the growing demands of farmer participants of greenhouse management, soil care, and plant disease identification and treatment seminars.

many farmers willing to construct new greenhouses using project's recommended techniques were still not able to do so due to a shortage of funds and difficulties with receiving loans.

It is worth noting that in Lebap about half of the participants were women, while in Mary the project saw participating farmers ranging in age from 15 to 70. The youngest, Mr. Kakamyrat Garliev, age 15, who works on his father's farm, expressed his desire for more trainings in the future to help them take better care of their farm and increase the quality and quantity of their tomatoes.

Livestock and AI Training

The program launched an eight-week AI TOT on April 11, 2011. The TOT used 700 doses of semen acquired from progeny-tested Holstein and Brown Swiss sires from the United States, and the 10 AI Kits procured by the project through World Wide Sires provided the mechanism for delivery. The training was led by a local breeding specialist, Ms. Katya Chikhnyaeva, whose years of service at the state run farm, Altyn Halka, has given her tremendous ability to demonstrate and train local veterinarians in these complex, advanced farming techniques. This hands-on training focused on the physical techniques to accurately test for an existing pregnancy, use of AI tools for impregnating cows, and testing to verify successful conception. Upon their completion, the 11 participants returned to their respective velayats where they in turn are planning on training 10 more veterinarians in AI techniques, resulting in approximately 50 trained veterinarians across the country (we anticipate that only about 50% of local veterinarians will want to finish the training module due to time commitments, difficulty and the dirty nature of the proces). It is the project's goal to use these veterinarians to expand the quality of dairy cows and their milk production throughout Turkmenistan through a private entrepreneurial business model. This model is exemplified through our partner in Mary Velayat, Mr Dovlet Eminov, who is investing in the project's first AI Training Center.

It is estimated that 137 household livestock farms received AI services through which over 250 cows were inseminated with the semen procured through our Project from American Breeders Association.

Constraints: AI specialists in Mary expressed concern with the hormones used to cause cows to come into heat. The current conception rate is at 30%. The farmers lack information on potentially better quality hormones and requested the Project to assist them in the procurement and identification of other available hormones. However, improvement in farm conditions and quality of feed should allow normal breeding conditions that would dismiss the need of any additional hormones to bring the cows into heat.

Next Step:

Provide assistance in identifying and procuring better quality hormones used to bring cows into heat and establish a cost-sharing relationship for procuring 10L Dewar flasks which farmers can use for transportation purposes.

CONSULTANTS

Feed Analysis

The project recruited Dr. Iqbal Zahid to conduct a two-week feed assessment in May 2011. The feed specialist had previously worked with livestock and dairy farmers in Pakistan and the Middle East where similar arid conditions to those present in Turkmenistan can be found. To establish a baseline for feed demonstrations, the feed specialist provided cost effective recommendations for improving the local farms and their dairy production, such as water intake and other simple tips for farm management and good animal hygiene. Dr. Iqbal visited a number of livestock farms, distributed questionnaires, met with Shamurat Herremov, Chief of the Agriculture Union for Entrepreneurs and Industrialists of Turkmenistan, as well as a feed mill owner and a feed specialist from Turkmenmallary. These visits and questionnaires allowed Dr. Iqbal to receive important feedback on the livestock feed in Turkmenistan.

Despite the limited data, Dr. Iqbal used field visits to identify basic constraints that hindered Turkmen farmers from maximizing their dairy cattle's milk production potential. Based on the findings, the feed specialist designed a tool allowing farmers to identify the best feed-mix based on nutritional content while analyzing current conditions. At the conclusion of his consultancy, Dr. Iqbal gave a presentation to the AI TOT participants and several major farmers in Ahal regarding feed and its impact on breeding and milk production. This is an example of how AgTech's programs are comprehensive in order to maximize the impact on project beneficiaries and deliver a complete program to improve Turkmenistan's dairy sector.

SUCESSES

New AI Training Techniques

The project's breeding specialist, Ms. Katya Chikhnyaeva, inspected a cow that has not been with a calf in two years and formally produced a large amount of milk. The farmer was not able to determine whether or not the cow would be able to bare calves and indicated that he was ready to send the cow to slaughter for meat production. Katya's examination revealed that the cow suffered minor internal injuries during a previous birth and was in fact with a calf. The instructor's expertise provided the farmer with new techniques in determining a successful pregnancy, and in this case, saved a productive animal from premature slaughter.

Feed Formula Tool

The program successfully combined efforts of local and international feed experts to produce an ideal feed mix. However, the project continues to seek out more information to create the most cost effective mix that can be produce and made affordable for local farmers to purchase. Once a developed feed mix is created, the project plans to conduct demonstrations in collaboration with industrial farms and dairy enterprises that have the capacity to produce and record results. The project is currently in negotiation with local farms and organizations regarding how to roll-out these demonstrations.

Training Materials

After the first six months of project implementation, it is clear that project beneficiaries are hungry for current information regarding best practices for livestock and horticulture farming. In anticipation of reaching a wide range of farmer communities throughout the five velayats, AgTech has initiated a strategy for extending basic horticultural and AI knowledge via the production of brochures and small booklets in the native Turkmen language. A booklet prototype has been

created for the AI TOT training, with visuals and detailed instructions for AI service providers. These booklets have been distributed during training seminars. The Program sees this as an opportunity to maximize impact with knowledge resources that can be spread throughout the country at a cost that fits within the allowable budget.

The instruction booklet initiative will not only provide portable information for AI and horticulture, but it will also offer suggestions for affordable and accessible treatments for plant and animal diseases. This concept is in response to initial indications that reliable information in Turkmen on the subject matters in not available.

In collaboration with the State Livestock Association – Turkmenmallary – the project is working on creating a resource for veterinarians regarding licensing, required documentation for importing inputs, and other state laws regarding the industry and its practices. This resource will be the first comprehensive resource for the animal health industry in Turkmenistan and allow for veterinarians to understand more clearly what they must do to remain in compliance of local laws, while also providing optimal care for their clients' animals and livestock.

PROGRAM DEVELOPMENT

Volunteer Veterinarians

Weidemann Associates' home office staff has initiated discussion with Veterinarians Without Borders, who are interested in sending volunteers to Turkmenistan to support the program's objectives. Veterinarians Without Boarders provide teachers that enhance local capacity by improving veterinary skills, veterinary care, animal husbandry, and focus on preventing, controlling and eliminating priority diseases. A timeline and further details will be available in Q4 and incorporated into the Project Year 2 work plan.

Feed Formula Tool

The project is exploring the option of working with University of Wisconsin's Dairy Extension Specialist from the Babcock Institute to develop a formula that is adjusted based on the ingredients and prices in Turkmenistan. This formula will be applied for the feed demonstrations, and ideally the project will design a tool that can be distributed to millers and farmers for timely formulation based on changing economic conditions and input availability. This undertaking will emphasize a least cost feed formulation addressing dry matter, protein, energy and other nutritional requirements.

PERSUAP

The project team and USAID/Turkmenistan has identified the need to receive appropriate information regarding the purchase and proper use of pesticides, as well as to review the impact of cascading seminars on the physical environment. Personnel have been identified and hired to conduct the Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP), which is scheduled for completion in Q4.

Construction of AI Training Center

The Project has identified a site for the AI Training Center in Mary, which will act as a research facility for evaluating and sourcing progeny-tested semen to ensure genetic quality of the sires. The project envisions that necessary laboratory equipment will be acquired and delivered through the Agriculture Technology Grants provisions. A memorandum of understanding (MOU) has been signed between Mr. Batyr Begliyev, who is a licensed private veterinarian, and Weidemann Associates, Inc. Mr. Bagliyev, with the support of entrepreneur and veterinarian Mr. Dovlet Eminov, who has

invested about $18,000 to create this AI Service Center. Likewise, the project is reviewing costs for laboratory equipment for the center and plans to award a grant in the months ahead.

PERFORMANCE INDICATORS – JUNE 2011

Performance Indicator	Performance Indicator Definition	Year 1 Proposed	Year 1 Actual
50% increase in HH income	*Horticulture HHs and farms increasing income by 50%*	*0*	*0*
	Livestock HHs and farms increasing their income by 50%	*0*	*0*
Rural HHs benefiting directly from USG Interventions	*Number of beneficiaries and training participants, disaggregated by gender and region*	*500*	*468*
Farmers, processors and others who have adopted new technologies or management practices	*Number of beneficiaries and training participants using new technologies or practices as introduced by the project, disaggregated by gender and region*	*300*	*172*
Quantity of produce grown and/or sold	*Farmers, buyers or labs are using AI, improved feed, vet services, greenhouses, drip irrigation, grading, post-harvest packaging practices training*	*Baseline + 10%*	*Over 250 cows inseminated*
Value of produce sold to local and international markets	*USD value of goods in livestock and horticulture sector disaggregated by product and velayat*	*Baseline + 10%*	*TBD*
Number of agriculture-related firms benefiting directly from USG supported interventions.	*Number of input providers and buyers strengthened to provide farmers with necessary inputs.*	*20*	*17*
Number of greenhouses constructed or improved	*Number of greenhouses constructed and/or renovated in each velayat*	*50*	*24*

AGRICULTURE TECHNOLOGY PROGRAM FOR TURKMENISTAN

Q4 July – September 2011 Activity Plan

ACTIVITY	DESCRIPTION	July	Aug	Sep
AI Velayat Training	Procurement (2280 doses of Semen; 2 AI Kits; 10L Dewar flasks)	15th-30th		
	Roll out trainings in velayats		1st -	-30th
AI Training Center in Mary	Procurement of 40L Dewar flasks and equipping of AI Service Center		15th-31st	
	Lab Consultant on Using Equipment			15th-30th
	Grand Opening			15th
Livestock Animal Health Trainings	Animal Health Training for Akhal		1st – 15th	
Feed Demonstration	Identify best formula		1st	
	Create MOU with local partner for		15th-30th	

	production/distribution of feed mix	
	Roll out feed to participating farm(s)	1st–15th
Greenhouse Velayat Trainings	Training in greenhouse construction and plant care in Akhal	15th-30th
	Identify Dashoguz partner greenhouse	1st
	Renovate (if necessary) demonstration greenhouse of partner farm in Dashoguz	15th-31st
	Training in greenhouse construction and plant care in Dashoguz	1st – 30th
PERSUAP	STTA consultants to conduct PERSUAP	1st - -31st
Manual for Turkmen Veterinarians	Booklet made for Turkmenmallary as a resource for veterinarians on local regulations for professional practices	1st - -31st